

Pile Panel Sound Barrier Wall Design (English)					
Exposure Category	Wind Pressure	"H" Bar Requirements	Soil Loads		
			P (kips)	V (kips)	M (k-ft)
A	12 psf	#4 @ 1'-0"	0.05 hs	0.012 hs	0.006 h ² s
B	20 psf	#4 @ 1'-0"	0.05 hs	0.020 hs	0.010 h ² s
C	31 psf	#4 @ 1'-0" (10' and 15' pile spacing) #5 @ 1'-0" (20' pile spacing)	0.05 hs	0.031 hs	0.016 h ² s
D	62 psf	#4 @ 1'-0" (10' pile spacing) #4 @ 6" (15' pile spacing) * #5 @ 6" (20' pile spacing) *	0.05 hs	0.062 hs	0.031 h ² s

h = maximum wall height (ft)

s = pile spacing (ft)

* Detail one additional bar 3" from top of panel
and one additional bar 3" from bottom of panel

Pile Panel Sound Barrier Wall Design (Metric)					
Exposure Category	Wind Pressure	"H" Bar Requirements	Soil Loads		
			P (kN)	V (kN)	M (kN-m)
A	0.6 kPa	#13 @ 300mm	2.40 hs	0.61 hs	0.31 h ² s
B	1.0 kPa	#13 @ 300mm	2.40 hs	1.02 hs	0.51 h ² s
C	1.5 kPa	#13 @ 300mm (3.1m and 4.6m pile spacing) #16 @ 300mm (6.1m pile spacing)	2.40 hs	1.52 hs	0.76 h ² s
D	3.0 kPa	#13 @ 300mm (3.1m pile spacing) #13 @ 150mm (4.6m pile spacing) * #16 @ 150mm (6.1m pile spacing) *	2.40 hs	3.05 hs	1.52 h ² s

h = maximum wall height (m)

s = pile spacing (m)

* Detail one additional bar 75mm from top of panel
and one additional bar 75mm from bottom of panel